

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A method for attaching at least one protein to a conductive support ~~by means of a pyrrole polymer~~, comprising:

[[~~-~~]] ~~coupling of the protein to be attached with a pyrrole monomer~~ directly to a protein to be attached to said conductive support ~~so as to obtain a first solution of a protein-pyrrole coupling compound,~~

[[~~-~~]] ~~preparation of a second solution of the pyrrole monomer not coupled to the protein,~~

[[~~-~~]] ~~mixing of said~~ the first solution with said a second solution of the pyrrole monomer not coupled to the protein ~~so as to obtain an electropolymerization solution,~~

[[~~-~~]] ~~electropolymerization of~~ electropolymerizing the electropolymerization solution the pyrrole and of the protein coupled to the pyrrole on at least one ~~given~~ area of the a conductive support ~~using said electropolymerization solution,~~ said electropolymerization being carried out with a charge of less than $50 \mu\text{C}/\text{mm}^2$ for a synthesis time of less than 1000 ms

~~, so as to obtain a film of copolymer having a thickness of less than or equal to 10 nm.~~

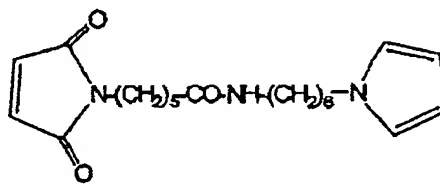
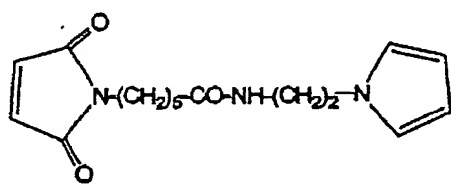
Claim 2 (Previously Presented): The method according to Claim 1, wherein the at least one conductive area on which the electropolymerization is carried out is at least one block of a biosensor support.

Claim 3 (Currently Amended): The method according to Claim 1, wherein the coupling of the protein to be attached with pyrrole is carried out by ~~means of activation of~~

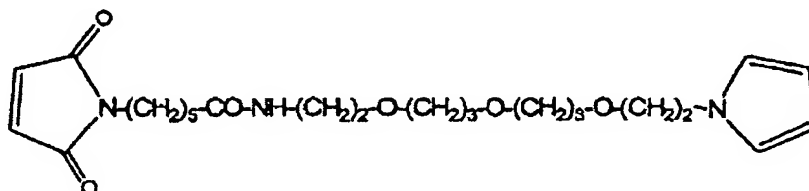
activating the pyrrole followed by coupling ~~[[of]]~~ the activated pyrrole to the protein to be attached.

Claim 4 (Currently Amended): The method according to Claim 3, wherein ~~the activation of~~ activating the pyrrole is carried out by means of N-hydroxysulphosuccinimide or of maleimide.

Claim 5 (Previously Presented): The method according to Claim 3, wherein the protein-pyrrole coupling compound is at least one selected from the group consisting of the following compounds:



and



Claim 6 (Currently Amended): The method according to Claim 1, wherein at least two proteins are attached to the pyrrole polymer successively and on two different ~~given~~ areas of the conductive support.

Claims 7-9 (Cancelled)

Claim 10 (New): The method according to Claim 1, wherein at least one protein attached to said conductive support is an enzyme.

Claim 11 (New): The method according to Claim 1, wherein at least one protein attached to said conductive support is an antibody.

Claim 12 (New): The method according to Claim 1, wherein at least one protein attached to said conductive support is an antigen.

Claim 13 (New): The method according to Claim 1, wherein at least one protein attached to said conductive support is a hormone.

Claim 14 (New): The method according to Claim 1, wherein at least one protein attached to said conductive support is a receptor.

Claim 15 (New): The method of Claim 1, wherein said electropolymerization produces a copolymer film having a thickness of less than or equal to 10 nm.

Claim 16 (New): The method of Claim 1, wherein said electropolymerization produces a copolymer film having a thickness about the diameter of the immobilized protein.

Claim 17 (New): The method of Claim 1 in which said protein is attached to a conductive support which is a monosensor or multisensor or attached to a conductive support used to fabricate a monosensor or multisensor.

Claim 18 (New): The method of Claim 1 in which said protein is attached to a conductive support which is a biochip or attached to a conductive support used to fabricate a biochip.

Claim 19 (New): The method of Claim 1 in which said protein is attached to a conductive support which is or forms a part of a surface plasmon resonance device and said electropolymerization produces a copolymer film less than or equal to 10 nm.

Claim 20 (New): The method of Claim 1 in which said protein is attached to a conductive support which is or forms a part of a device used for fluorescent detection and said electropolymerization produces a copolymer film about the diameter of the immobilized protein.

Claim 21 (New): The method of Claim 1 in which two or more proteins are electropolymerized to a conductive support which is or forms a part of a biosensor by separately or sequentially performing said coupling, mixing, and electropolymerizing steps with two or more proteins to be attached to said conductive substrate.